

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	o References					
	• Comments					
gp120(30-51 LAI)	M85	y	n	ATEKLWVTVYYGVPVWKEATT	HIV-1 451 env	murine(IgG <sub>1</sub> )
	o [Moore et al.(1994b), di Marzo Veronese et al.(1992), Moore et al.(1994c)]					
	• M85: C1 domain; mutation 40 Y/D impairs binding; the relative affinity for denatured/native gp120 is < .01 [Moore et al.(1994b)]					
	• M85: Immunoblot and RIP reactive for strains IIIB, 451, MN, RF, and RUTZ; binds deglycosylated gp120 [di Marzo Veronese et al.(1992)]					
gp120(31-50 LAI)	7E2/4	y	?	TEKLWVTVYYGVPVWKEATT	env glycoprotein	murine(IgG)
	o [Moore et al.(1994b)]; Donor: S. Ranjbar, NIBSC, UK					
	• 7E2/4: C1 domain; the relative affinity for denatured/native gp120 is .07 [Moore et al.(1994b)]					
gp120(31-50 LAI)	M92	y	n	GVPVWKEATT	HIV-1 451 env	rat(IgG <sub>1</sub> )
	o [Moore et al.(1994b), di Marzo Veronese et al.(1992), Moore et al.(1994c)]					
	• M92: The relative affinity for denatured/native gp120 is 1 [Moore et al.(1994b)]					
	• M92: Immunoblot reactive, RIP negative, but precipitates deglycosylated gp120;; reacts with strains IIIB, 451, MN, RF, and RUTZ [di Marzo Veronese et al.(1992)]					
gp120(31-50 LAI)	4D4#85	y	?	GVPVWKEATT	envelope	murine(IgG)
	o [Moore et al.(1994b), Moore et al.(1994c)]; Donor: S. Nigida, NCI, USA					
	• 4D4#85: The relative affinity, denatured/native gp120 is 0.1; mutation 45 W/S impairs binding [Moore et al.(1994b)]					
gp120(42-61 LAI)	M86	y	n	VPVWKEATTTLFCASDAKAY	HIV-1 451 env	murine(IgG <sub>1</sub> )
	o [Moore et al.(1994b), di Marzo Veronese et al.(1992)]					
	• M86: C1 domain; the relative affinity for denatured/native gp120 is 1 [Moore et al.(1994b)]					
	• M86: Immunoblot and RIP reactive for strains IIIB, 451, MN, RF, and RUTZ binds deglycosylated gp120 [di Marzo Veronese et al.(1992)]					
gp120(64-78)	133/11	y	L	EVHNVWATHACVPTD	IIIB gp120	murine(IgG <sub>1</sub> )
	o [Niedrig et al.(1992)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	○ References					
	● Comments					
gp120(51-70 LAI)	133/237	y	L	YDTEVHNWVA	IIIB gp120	murine(IgG <sub>1</sub> )
	○ [Moore et al.(1994b), Niedrig et al.(1992), Moore et al.(1994c)]					
	● 133/237: Region of overlap for reactive peptides is WATHA [Niedrig et al.(1992)]					
	● 133/237: The relative affinity, denatured/native gp120 is 1.4;					
	mutation of position 69 W/L impairs binding [Moore et al.(1994b)]					
gp120(51-70 LAI)	133/290	y	L	YDTEVHNWVA	IIIB gp120	murine(IgG <sub>1</sub> )
	○ [Moore et al.(1994b), Niedrig et al.(1992), Moore et al.(1994c)]					
	● 133/290: The relative affinity for denatured/native gp120 is 2.2;					
	mutation in position 69 W/L impairs binding [Moore et al.(1994b)]					
gp120(81-90 LAI)	4A7C6	y	?	PQEVLVNVNT	env glycoprotein	murine(IgG)
	○ [Moore et al.(1994b), Thiriart et al.(1989), Moore et al.(1994c)]					
	● 4A7C6: The relative affinity for denatured/native gp120 is 7.9;					
	mutation 88 N/P impairs binding [Moore et al.(1994b)]					
	● 4A7C6: C1 region epitope, but substitutions 380 G/F and 420 I/R also impaired binding [Moore et al.(1994c)]					
gp120(81-100 LAI)	1D10	y	?	PQEVLVNVNTENFDMWKNDM	IIIB-rgp120	rat
	○ [Moore et al.(1994b), Nakamura et al.(1992), Dowbenko et al.(1988)]					
	● 1D10: Cross blocks 5B3 in IIIB-rsgp160 ELISA; type specific in rgp120 ELISA binding [Nakamura et al.(1992)]					
	● 1D10: The relative affinity for denatured/native gp120 is 13;					
	mutation 88 N/P impairs binding [Moore et al.(1994b)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	o References					
	• Comments					
gp120(91-100 LAI)	133/192	y	L	ENFDMWKNDM	IIIB gp120	murine(IgG <sub>1</sub> )
	o [Niedrig et al.(1992), Moore et al.(1994b), Moore et al.(1993b)]					
	• 133/192: Epitope seems complex, binds multiple peptides [Niedrig et al.(1992)]					
	• 133/192: The relative affinity for denatured/native gp120 is 1.8 [Moore et al.(1994b)]					
	• 133/192: C1 region; substitutions 76P/Y, 113 D/A or R, 117 K/W, 420 I/R, 427 W/S impair binding, some substitutions enhanced [Moore et al.(1994c)]					
gp120(91-100 LAI)	C6	y	?	ENFDMWKNDM	mis-folded LAI rgp160	murine(IgG <sub>1</sub> )
	o [Moore et al.(1994b), Abacioglu et al.(1994)]					
	• C6: The relative affinity for denatured/native gp120 is 0.9; [Moore et al.(1994b)]					
	• C6: There is FNM/FDM polymorphism in LAI-based peptides; N is essential (J. P. Moore, per. comm.)					
	• C6: C1 region; epitope boundaries mapped by peptide scanning, FNMW core [Abacioglu et al.(1994)]					
gp120(91-100 LAI)	B2	y	?	ENFDMWKNDM	mis-folded LAI rgp160	murine(IgG <sub>2b</sub> )
	o [Moore et al.(1994b), Abacioglu et al.(1994), Moore et al.(1994c)]					
	• B2: The relative affinity for denatured/native gp120 is 1.4 [Moore et al.(1994b)]					
	• B2: There is FNM/FDM polymorphism in LAI-based peptides; N is essential (J. P. Moore, per. comm.)					
	• B2: C1 region; epitope boundaries mapped by peptide scanning, FNMW core [Abacioglu et al.(1994)]					
gp120(93-96 LAI)	B9	y	?	FNMW	mis-folded LAI rgp160	murine(IgG <sub>1</sub> )
	o [Abacioglu et al.(1994)]					
	• B9: C1 region; epitope boundaries mapped by peptide scanning [Abacioglu et al.(1994)]					
gp120(91-100 LAI)	B10	y	?	ENFDMWKNDM	mis-folded LAI rgp160	murine(IgG <sub>1</sub> )
	o [Moore et al.(1994b), Abacioglu et al.(1994)]					
	• B10: The relative affinity for denatured/native gp120 is .4 [Moore et al.(1994b)]					
	• B10: There is FNM/FDM polymorphism in LAI-based peptides; N is essential (J. P. Moore, per. comm.)					
	• B10: C1 region; Epitope boundaries mapped by peptide scanning, FNMW core [Abacioglu et al.(1994)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	o References					
	• Comments					
gp120(89-103 IIIB)	L5.1	y	?	PNPQEVVVLVNVTFNF	vaccinia gp160	murine(IgG)
	o [Akerblom et al.(1990)]					
gp120(94-97 BH10)	B27	y	?	FNMW	mis-folded LAI rgp160	murine(IgG <sub>1</sub> )
	o [Abacioglu et al.(1994)]					
	• B27: C1 region; Epitope boundaries mapped by peptide scanning [Abacioglu et al.(1994)]					
gp120(94-99 BH10)	B35	y	?	FNMWKN	mis-folded LAI rgp160	murine(IgG <sub>1</sub> )
	o [Abacioglu et al.(1994)]					
	• B35: C1 region; Epitope boundaries mapped by peptide scanning [Abacioglu et al.(1994)]					
gp120(91-100 LAI)	489.1(961)	y	?	ENFDMWKNDM	envelope	murine(IgG)
	o [Moore et al.(1994b)]; Donor: C. Bruck, SKB, Belgium					
	• 489.1(961): The relative affinity for denatured/native gp120 is 1 [Moore et al.(1994b)]					
gp120(91-100 LAI)	T1.1	y	?	ENFDMWKNDM	vaccinia gp160	murine(IgG)
	o [Moore et al.(1994b), Akerblom et al.(1990), Broliden et al.(1990)]					
	• T1.1: C1 region; the relative affinity for denatured/native gp120 is 1 [Moore et al.(1994b)]					
	• T1.1: Also reacted in solid phase with gp120(234-248) NGTGPCTNVSTQCT					
	• T1.1: No ADCC activity; reactive peptide: NVTENFNWKNDMVEQ, IIIB [Broliden et al.(1990)]					
gp120(91-100 LAI)	T7.1	y	?	ENFDMWKNDM	envelope	murine(IgG)
	o [Moore et al.(1994b), Bolmstedt et al.(1990), Moore et al.(1994c)]					
	• T7.1: The relative affinity of denatured/native gp120 is 4.0 [Moore et al.(1994b)]					
gp120(91-100 LAI)	T9	y	?	ENFDMWKNDM	envelope	murine(IgG)
	o [Moore et al.(1994b), Bolmstedt et al.(1990), Moore et al.(1994c)]					
	• T9: The relative affinity of denatured/native gp120 is 7.9 [Moore et al.(1994b)]					
	• T9: C1 region; external substitutions did not significantly impair binding, some enhanced [Moore et al.(1994c)]					

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Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
gp120(91-100 LAI)	5B3	y	N	ENFDMWKNDM	IIIB-rsgp160	murine(IgG)
	o References			o [Moore et al.(1994b), Nakamura et al.(1992)]		
	• Comments			• 5B3: Cross blocks 1D10 in competitive IIIB-rsgp160 ELISA [Nakamura et al.(1992)]		
				• 5B3: No neutralization, blocks IIIB-gp120 sCD4 binding, localized to binding to residues 72-106; cross blocks 1D10 [Nakamura et al.(1992)];		
				• 5B3: The relative affinity of denatured/native gp120 is 8.3 [Moore et al.(1994b)]		
gp120(91-100 LAI)	MF49.1	y	?	ENFDMWKNDM	envelope	murine(IgG)
	o References			o [Moore et al.(1994b), Thiriart et al.(1989)]		
	• Comments			• MF49.1: The relative affinity of denatured/native gp120 is 3.8 [Moore et al.(1994b)]		
gp120(101-110 LAI)	B20	y	?	VEQMHEDIIS	mis-folded LAI rgp160	murine(IgG <sub>2a</sub> )
	o References			o [Moore et al.(1994b), Abacioglu et al.(1994)]		
	• Comments			• B20: The relative affinity for denatured/native gp120 is 1 [Moore et al.(1994b)]		
				• B20: C1 region; epitope boundaries mapped by peptide scanning; HEDII core [Abacioglu et al.(1994)]		
gp120(101-110 LAI)	B18	y	?	VEQMHEDIIS	mis-folded LAI rgp160	murine(IgG <sub>2a</sub> )
	o References			o [Moore et al.(1994b), Abacioglu et al.(1994)]		
	• Comments			• B18: The relative affinity for denatured/native gp120 is 1 [Moore et al.(1994b)]		
				• B18: C1 region epitope; Epitope boundaries mapped by peptide scanning, HEDII core [Abacioglu et al.(1994)]		
gp120(101-110 LAI)	MF39.1	y	?	VEQMHEDIIS	envelope	murine(IgG)
	o References			o [Moore et al.(1994b), Thiriart et al.(1989)]		
	• Comments			• MF39.1: The relative affinity of denatured/native gp120 is 30 [Moore et al.(1994b)]		
gp120(101-120 LAI)	T2.1	y	?	VEQMHEDIISLWDQSLKPCV	envelope	murine(IgG)
	o References			o [Moore et al.(1994b), Bolmstedt et al.(1990), Moore et al.(1994c)]		
	• Comments			• T2.1: The relative affinity for denatured/native gp120 is .27; mutations 113 D/R, 106 E/A, and 117 D/A impair binding [Moore et al.(1994b)]		
gp120(311-321 HXB10)	11/65	y	?	EQMHEDIISLWDQSLKPCVK	rgp120 BH10	rat(IgG <sub>2b</sub> )
	o References			o [McKeating et al.(1992a)]		
	• Comments			• 11/65: Binds only soluble gp120, not virion bound; used to control for gp120 shedding [McKeating et al.(1992a)]		

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Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	o References					
	• Comments					
gp120(101-120 LAI)	6D8	y	?	VEQMHE <span style="font-variant: small-caps;">DIISLWDQSLKPCV</span>	IIIB-rgp120	rat
	o [Moore et al.(1994b), Nakamura et al.(1992), Dowbenko et al.(1988)]					
	• 6D8: Highly cross reactive with multiple stains by rgp120 ELISA [Nakamura et al.(1992)]					
	• 6D8: The relative affinity for denatured/native gp120 is 15; mutations 113 D/R and 113 D/A impair binding [Moore et al.(1994b)]					
gp120(101-120 LAI)	M96	y	n	VEQMHE <span style="font-variant: small-caps;">DIISLWDQSLKPCV</span>	HIV-1 451 env	rat(IgG <sub>2a</sub> )
	o [Moore et al.(1994b), di Marzo Veronese et al.(1992), Moore et al.(1994c)]					
	• M96: C1 region; the relative affinity for denatured/native gp120 is 6 [Moore et al.(1994b)]					
	• M96: Immunoblot reactive for strains IIIB, 451, MN, RF, and RUTZ [di Marzo Veronese et al.(1992)]					
gp120(101-120 LAI)	37.1.1(ADP 327)	y	?	VEQMHE <span style="font-variant: small-caps;">DIISLWDQSLKPCV</span>	env glycoprotein	murine(IgG)
	o [Moore et al.(1994b), Thiriart et al.(1989)]					
	• 37.1.1: The relative affinity for denatured/native gp120 is 8.6; mutations 113 D/R (but not A) and 117 K/W impair binding [Moore et al.(1994b)]					
gp120(101-120 LAI)	187.2.1(ADP 332)	y	?	VEQMHE <span style="font-variant: small-caps;">DIISLWDQSLKPCV</span>	env glycoprotein	murine(IgG)
	o [Moore et al.(1994b), Thiriart et al.(1989), Moore et al.(1994c)]					
	• 187.2.1: The relative affinity for denatured/native gp120 is 7; mutations 113 D/A (but not R) and 117 K/W impair binding [Moore et al.(1994b)]					
gp120(101-120 LAI)	MF58.1	y	?	VEQMHE <span style="font-variant: small-caps;">DIISLWDQSLKPCV</span>	envelope	murine(IgG)
	o [Moore et al.(1994b), Thiriart et al.(1989)]					
	• MF58.1: The relative affinity for denatured/native gp120 is 10; mutations 102 E/L and 106 E/A impair binding [Moore et al.(1994b)]					
gp120(101-120 LAI)	MF77.1	y	?	VEQMHE <span style="font-variant: small-caps;">DIISLWDQSLKPCV</span>	envelope	murine(IgG)
	o [Moore et al.(1994b), Thiriart et al.(1989)]					
	• MF77.1: The relative affinity for denatured/native gp120 is 11 [Moore et al.(1994b)]					

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Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	o References					
	• Comments					
gp120(101-120 LAI)	MF119.1	y	?	VEQMHEDIISLWDQSLKPCV	envelope	murine(IgG)
	o [Moore et al.(1994b), Thiriart et al.(1989)]					
	• MF119.1: The relative affinity for denatured/native gp120 is 30; mutations 113 D/A, 113 D/R 117 K/W impair binding [Moore et al.(1994b)]					
gp120(101-120 LAI)	MF4.1	y	?	VEQMHEDIISLWDQSLKPCV	envelope	murine(IgG)
	o [Moore et al.(1994b), Thiriart et al.(1989)]					
	• MF4.1: The relative affinity for denatured/native gp120 is 8 [Moore et al.(1994b)]					
gp120(101-120 LAI)	MF53.1	y	?	VEQMHEDIISLWDQSLKPCV	envelope	murine(IgG)
	o [Moore et al.(1994b), Thiriart et al.(1989)]					
	• MF53.1: The relative affinity for denatured/native gp120 is 10 [Moore et al.(1994b)]					
gp120(111-120 LAI)	135/9	y	?	LWDQSLKPCV	env glycoprotein	murine(IgG)
	o [Moore et al.(1994b), Niedrig et al.(1992), Moore et al.(1994c)]					
	• 135/9: The relative affinity for denatured/native gp120 is 15; mutation 113 D/R impairs binding to native and denatured, 113 D/A only to denatured. [Moore et al.(1994b)]					
	• 135/9: Substitutions 106 E/A, 113 D/A or R, and 117 K/W impair binding, some substitutions enhance [Moore et al.(1994c)]					
gp120(101-120 LAI)	MF46.1	y	?	LWDQSLKPCV	envelope	murine(IgG)
	o [Moore et al.(1994b), Thiriart et al.(1989)]					
	• MF46.1: The relative affinity for denatured/native gp120 is 8.5 [Moore et al.(1994b)]					
gp120(101-120 LAI)	C4	y	?	LWDQSLKPCV	mis-folded LAI rgp160	murine(IgG1)
	o [Moore et al.(1994b), Abacioglu et al.(1994)]					
	• C4: The relative affinity for denatured/native gp120 is 10 [Moore et al.(1994b)]					
	• C4: C1 region; Epitope boundaries mapped by peptide scanning, BH10 core IISLW [Abacioglu et al.(1994)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	o References					
	• Comments					
gp120(101-120 LAI)	10A11	y	?	LWDQSLKPCV	envelope	murine(IgG)
	o [Moore et al.(1994b), Thiriart et al.(1989)]					
	• 10A11: The relative affinity for denatured/native gp120 is 7.8; mutation 113 D/R impairs binding [Moore et al.(1994b)]					
gp120(101-120 LAI)	12G10	y	?	LWDQSLKPCV	envelope	murine(IgG)
	o [Moore et al.(1994b), Thiriart et al.(1989)]					
	• 12G10: The relative affinity for denatured/native gp120 is 17; mutation 117 K/W impairs binding [Moore et al.(1994b)]					
gp120(101-120 LAI)	7C10	y	?	LWDQSLKPCV	envelope	murine(IgG)
	o [Moore et al.(1994b), Thiriart et al.(1989)]					
	• 7C10: The relative affinity for denatured/native gp120 is 5.8; mutation 117 K/W impairs binding [Moore et al.(1994b)]					
gp120(102-121 LAI)	W1	y	?	EQMHEDIISLWDQSLKPCVK	envelope	murine(IgG)
	o [Moore et al.(1994b)]; Donor: D. Weiner, U. Penn.					
	• W1: The relative affinity for denatured/native gp120 is 6; mutations 113 D/A, 113 D/R, and 117 K/W impair binding [Moore et al.(1994b)]					
gp120(114-123)	135/9	y	L	MHEDIISLWD	IIB gp120	murine(IgG <sub>1</sub> )
	o [Niedrig et al.(1992)]					
gp120(122-141 LAI)	6D5	y	?	LTPLCVSLKCTDLKNDTNTN	envelope	murine(IgG)
	o [Moore et al.(1994b), Moore et al.(1994c)]; Donor: S. Nigida, NCI, USA					
	• 6D5: The relative affinity for denatured/native gp120 is 15; mutations Δ119-205 and 125 L/G impair binding [Moore et al.(1994b)]					

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Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	o References					
	• Comments					
gp120(162-169 HXB2)	C108G	y	L	STSIRGKV	HIV IIIB infection	chimpanzee(IgG <sub>1κ</sub> )
	o [Warrier et al.(1994), Wu et al.(1995)]					
	• C108G: High affinity, potent neutralization of HIV IIIB; binding not effected by reduction of disulfide bonds; binding disrupted by removal of N-linked glycans; peptide binding lower affinity than glycosylated env [Warrier et al.(1994)]					
	• C108G: Strain specificity: LAI, Bal, HXB2; conformational character; glycosylation site at 160 critical; mutation of conserved glycosylation site at 156 increased expression of the C108G epitope [Wu et al.(1995)]					
gp120(162-171 V2 BH10 )	10/76b	y	L	STSIRGKVQ	BH10 rgp120	rat
	o [McKeating et al.(1993b), McKeating et al.(1993a), Shotton et al.(1995), Wu et al.(1995)]					
	• 10/76b: R to L substitution abrogated binding; human sera recognize epitope [McKeating et al.(1993b)]					
	• 10/76b: Studied in the context of a neutralization escape mutant [McKeating et al.(1993a)]					
	• 10/76b: Included in cross-competition and neutralization studies [Shotton et al.(1995)]					
	• 10/76b: HX10 strain specificity; binds native, deglycosylated, or dentured gp120 [Wu et al.(1995)]					
gp120(162-171)	11/4c	y	L	STSIRGKVQ	BH10 rgp120	rat
	o [McKeating et al.(1993b), Wu et al.(1995)]					
	• 11/4c: R to L substitution abrogated binding; human sera recognize epitope [McKeating et al.(1993b)]					
	• 11/4c: HX10 strain specificity; binds native, deglycosylated, or dentured gp120 [Wu et al.(1995)]					
gp120(162-171)	11/41e	y	L	STSIRGKVQ	rgp120 LAI:BH10	rat
	o [McKeating et al.(1993b), Shotton et al.(1995), Wu et al.(1995)]					
	• 11/41e: R to L abrogated binding; human sera recognize the epitope [McKeating et al.(1993b)]					
	• 11/41e: Included in cross-competition and neutralization studies [Shotton et al.(1995)]					
	• 11/41e: HX10 strain specificity; binds native and deglycosylated gp120 [Wu et al.(1995)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
gp120(162-171)	11/4b	y	L	STSIRGKVQ	rgp120 LAI:BH10	rat
	o References					
	• Comments					
gp120(162-171) BH10	RSD-33	y	STSIRGKVQ	BH10 gp120	?	
	o [Moore et al.(1993a)]; Donor: R. Daniels (NIMR, UK)					
gp120(162-170) BH10	6C4/S	y	STSIRGKV	BH10 gp120	?	
	o [Moore et al.(1993a)]; Donor: S. Ranjbar (NIBSC, UK)					
gp120(170-180) BH10	G3-4	y	L	QKEYAFFYKLD	?	murine
	o [Ho et al.(1991), Sullivan et al.(1993), Sattentau et al.(1993), Moore et al.(1993a), Moore et al.(1994a)]					
	o [Yoshiyama et al.(1994), Wu et al.(1995)]					
	• G3-4: Binding is sensitive to removal of glycans by endo H [Ho et al.(1991)]					
	• G3-4: Substitutions in residues 176 to 184 affect MAb recognition; substitutions in V2 can result in gp120-gp41 dissociation [Sullivan et al.(1993)]					
	• G3-4: Increased binding in the presence of sCD4 [Sattentau et al.(1993)]					
	• G3-4: V2 region, marginal binding to peptide, binding inhibited by 183/184 PI/SG substitution [Moore et al.(1993a)]					
	• G3-4: Conformationally sensitive; sporadic cross-reactivity among and outside B clade gp120s [Moore et al.(1994a)]					
	• G3-4: Broadly reactive, with BH10, RF, and MN; binds native, but not denatured or deglycosylated gp120, binds to deglycosylated V1V2 fusion protein; suggests importance of glycans outside the V1V2 region for binding [Wu et al.(1995)]					

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Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	o References					
	• Comments					
gp120(170-180 IIIB)	BAT085	y	L	QKEYAFFYKLD	purified IIIB gp120	murine(IgG)
	o [Fung et al.(1992), Pirofski et al.(1993), Moore et al.(1993a), D'Souza et al.(1994), Wu et al.(1995), Moore et al.(1994c)]					
	• BAT085: V2 region; sCD4 does not block; neutralizes IIIB and some primary isolates, but not MN or RF; binds MN; Deglycosylation or DDT reduction of gp120 does not diminish reactivity [Fung et al.(1992)]					
	• BAT085: 7/8 V2 murine MAbs required gp120 native structure to bind, but BAT085 was the exception; type-specific [Moore et al.(1993a)]					
	• BAT085: Multi-lab study for antibody characterization and assay comparison; did not bind MN or SF2 [D'Souza et al.(1994)]					
	• BAT085: HXB10 strain specificity; binds native, deglycosylated, or dentured gp120 [Wu et al.(1995)]					
	• BAT085: Peptide affinities of G3-136 and G3-4 100 fold less than BAT085, but BAT085 has lower affinity for BH10 gp120 and is a weaker neutralization antibody than the other two [Moore et al.(1993a)]					
gp120(170-180 IIIB)	G3-136	y	L	QKEYAFFYKLD	purified IIIB gp120	murine(IgG)
	o [Fung et al.(1992), Pirofski et al.(1993), Moore et al.(1993a)]					
	• G3-136: V2 region; binds and neutralizes IIIB and RF in CEM-SS cells, but not MN; neutralization activity against a few primary isolates in PBMC; sCD4 binding inhibits binding (contrast with BAT085); deglycosylation or reduction of gp120 by DTT diminishes reactivity; [Fung et al.(1992)]					
	• G3-136: Marginal binding to peptide, binding inhibited by 183/184 PI/SG substitution [Moore et al.(1993a)]					
gp120(172-191 HXB2)	38/12b	y	?	EYAFFYKLDIIPIDNDTSY	BH10 gp120	rat
	o [Wu et al.(1995)]					
	• 38/12b: Broad specificity: HXB2, MN, SF162; binds native and deglycosylated gp120 [Wu et al.(1995)]					
gp120(172-191 HXB2)	38/60b	y	?	EYAFFYKLDIIPIDNDTSY	BH10 gp120	rat
	o [Wu et al.(1995)]					
	• 38/60b Strain specificity: HXB2; binds native and deglycosylated gp120 [Wu et al.(1995)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	○ References					
	● Comments					
gp120(162-181)	12b	y	L	STSIRGKVQKEYAFFYKLDI	LAI BH10 rgp120	rat
	○ [Shotton et al.(1995)]					
	● 12b: V2 MAb neutralized HXB2, but not IIIB, MN or RF; position 179-180 LD to DL abrogates binding; competes with 12b, but not 74 [Shotton et al.(1995)]					
gp120(172-181 HXB2 )	60b	y	N	EYAFFYKLDI	LAI BH10 rgp120	rat
	○ [Shotton et al.(1995)]					
	● 60b: V2 MAb did not neutralize HXB2; bound to rgp120 ELISA; position 179-180 LD to DL abrogates binding, as do changes outside the minimum epitope; competes with 12b, but not 74 [Shotton et al.(1995)]					
gp120(172-181)	74	y	N	EYAFFYKLDI	LAI BH10 rgp120	rat
	○ [Shotton et al.(1995)]					
	● 74: V2 MAb did not neutralize HXB2; did not bind rgp120 ELISA; position 179-180 LD to DL abrogates binding, as do changes outside the minimum epitope; does not compete with 60b or 12b, and is enhanced by two conformation dependent MAbs [Shotton et al.(1995)]					
gp120(221-220 LAI)	3D3.B8	y	?	EPIPIHYCAPA	env glycoprotein	murine(IgG)
	○ [Moore et al.(1994b), Bolmstedt et al.(1990)]					
	● 3D3.B8: The relative affinity denatured/native gp120 is >> 10 [Moore et al.(1994b)]					
gp120(211-220 LAI)	4C11.D8	y	?	EPIPIHYCAPA	envelope glycoprotein	murine(IgM)
	○ [Bolmstedt et al.(1990), Moore et al.(1994b)]					
	● 4C11.D8: The relative affinity denatured/native gp120 is >> 10 [Moore et al.(1994b)]					
gp120(201-220 LAI)	322-151	y	?	EPIPIHYCAPA	envelope glycoprotein	murine(IgG)
	○ [Moore et al.(1994b), Moore et al.(1994c)]; Donor: G. Robey, Abbot Labs					
	● 322-151: The relative affinity denatured/native gp120 is 30 [Moore et al.(1994b)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	o References					
	• Comments					
gp120(211-230 LAI)	493-156	y	?	EPIPIHYCAPAGFAILKCN	envelope glycoprotein	murine(IgG)
	o [Moore et al.(1994b)]; Donor: G. Robey, Abbot Labs					
	• 493-156 The relative affinity denatured/native gp120 is >10 [Moore et al.(1994b)]					
gp120(222-231 LAI)	J1	y	?	GFAILKCNNK	peptide	murine(IgG)
	o [Moore et al.(1994b), Moore et al.(1994c)]; Donor: J. Moxie, U. Penn.					
	• J1: The relative affinity denatured/native gp120 is 30 [Moore et al.(1994b)]					
gp120(222-231 LAI)	J3	y	?	GFAILKCNNK	peptide	murine(IgG)
	o [Moore et al.(1994b)]; Donor: J. Moxie, U. Penn.					
	• J3: The relative affinity denatured/native gp120 is 30 [Moore et al.(1994b)]					
gp120(242-261 LAI)	MF87.1	y	?	RPVVSTQLL	envelope	murine(IgG)
	o [Moore et al.(1994b), Thiriart et al.(1989)]					
	• MF87.1; The relative affinity denatured/native gp120 is 10; mutations 252 R/W, 257 T/G, and 257 T/R impair binding [Moore et al.(1994b)]					
gp120(242-261 LAI)	MF169.1	y	?	RPVVSTQLL	envelope	murine(IgG)
	o [Moore et al.(1994b), Thiriart et al.(1989), Moore et al.(1994c)]					
	• MF169.1: The relative affinity denatured/native gp120 is 11; mutations 252 R/W, 257 T/G, and 257 T/R impair binding [Moore et al.(1994b)]					
gp120(242-261 LAI)	MF170.1	y	?	RPVVSTQLL	envelope	murine(IgG)
	o [Moore et al.(1994b), Thiriart et al.(1989), Moore et al.(1994c)]					
	• MF170.1: The relative affinity denatured/native gp120 is 15; mutations 252 R/W, 257 T/G, and 257 T/R impair binding to denatured and native gp120; 262N/T 269 E/L and 281 A/V impair binding to native gp120 [Moore et al.(1994b)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
gp120(242-261 LAI)	213.1(ADP 334)	y	?	RPVVSTQLLL	env glycoprotein	murine(IgG)
	o References				o [Moore et al.(1994b), Thiriart et al.(1989)]	
	• Comments				• 213.1: The relative affinity denatured/native gp120 is 100; mutations 252 R/W, 257 T/G or T/R impair binding [Moore et al.(1994b)]	
gp120(252-271 LAI)	M89	y	n	RPVVSTQLLLNGSLAEEEVV	HIV-1 451 env	murine(IgG <sub>1</sub> )
	o References				o [Moore et al.(1994b), di Marzo Veronese et al.(1992), Moore et al.(1994c)]	
	• Comments				• M89: C2 region; the relative affinity for denatured/native gp120 is >30; mutations 257 T/R and 269 E/L impair binding [Moore et al.(1994b)]	
	• M89: Immunoblot reactive, RIP negative, for strains IIIB, 451, MN, RF, and RUTZ [di Marzo Veronese et al.(1992)]					
gp120(252-271 LAI)	B12	y	?	RPVVSTQLLLNGSLAEEEVV	mis-folded LAI rgp160	murine(IgG)
	o References				o [Moore et al.(1994b)]	
	• Comments				• B12: C2 region; the relative affinity for denatured/native gp120 is 27; mutations 257 T/R and 262 N/T impair binding [Moore et al.(1994b)]	
gp120(252-271 LAI)	B13	y	?	RPVVSTQLLLNGSLAEEEVV	mis-folded LAI rgp160	murine(IgG <sub>2a</sub> )
	o References				o [Moore et al.(1994b), Abacioglu et al.(1994), Moore et al.(1994c)]	
	• Comments				• B13: the relative affinity for denatured/native gp120 is 30; mutations 257 T/R and 269 E/L, impair binding [Moore et al.(1994b)]	
	• B13: C2 region; epitope boundaries mapped by peptide scanning, core epitope: TQLLN [Abacioglu et al.(1994)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(Isotype)
	o References					
	• Comments					
gp120(257-262 BH10)	B24	y	?	TQLLN	mis-folded LAI rgp160	murine(IgG <sub>2a</sub> )
	o [Abacioglu et al.(1994)]					
gp120(257-262 BH10)	B3	y	?	TQLLN	mis-folded LAI rgp160	murine(IgG <sub>1</sub> )
	o [Abacioglu et al.(1994)]					
gp120(257-262 BH10)	B21	y	?	TQLLN	mis-folded LAI rgp160	murine(IgG <sub>1</sub> )
	o [Abacioglu et al.(1994)]					
gp120(257-262 BH10)	B23	y	?	TQLLN	mis-folded LAI rgp160	murine(IgG <sub>2a</sub> )
	o [Abacioglu et al.(1994)]					
gp120(257-262 BH10)	B25	y	?	TQLLN	mis-folded LAI rgp160	murine(IgG <sub>1</sub> )
	o [Abacioglu et al.(1994)]					
gp120(257-263 BH10)	B29	y	?	TQLLN	mis-folded LAI rgp160	murine(IgG <sub>2a</sub> )
	o [Abacioglu et al.(1994)]					
gp120(257-263 BH10)	B26	y	?	TQLLN	mis-folded LAI rgp160	murine(IgG <sub>1</sub> )
	o [Abacioglu et al.(1994)]					
gp120(257-263 BH10)	B36	y	?	TQLLN	mis-folded LAI rgp160	murine(IgG <sub>1</sub> )
	o [Abacioglu et al.(1994)]					
	• B24, B3, B21, B23, B25, B29, B26, B36: C2 region, epitope boundaries mapped by peptide scanning [Abacioglu et al.(1994)]					
gp120(252-271 LAI)	C13	y	?	RPVVSTQLLNGLAEEEVV	mis-folded LAI rgp160	murine(IgG <sub>1</sub> )
	o [Moore et al.(1994b), Abacioglu et al.(1994)]					
	• C13: The relative affinity for denatured/native gp120 is 36; mutations 257 T/R, 267 E/L, and 269 E/L impair binding [Moore et al.(1994b)]					
	• C13: epitope boundary extended to RPVVSTQLLNGLAEEEVVIR, to take into account the effect of a point mutation [Abacioglu et al.(1994)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
gp120(262-281 LAI)	110.E	y	?	NGSLAEEEVIRSVNFTDNA	envelope glycoprotein	murine(IgG)
	o [Moore et al.(1994b), Moore et al.(1994c)]; Donor: F. Traincard					
	• 110.E: The relative affinity for denatured/native gp120 is 7.3 [Moore et al.(1994b)]					
gp120(261-280 LAI)	110.C	y	?	VIRSVNFTDN	envelope glycoprotein	murine(IgG)
	o [Moore et al.(1994b), Moore et al.(1994c)]; Donor: F. Traincard					
	• 110.C: The relative affinity for denatured/native gp120 is 1 [Moore et al.(1994b)]					
gp120(299-304 IIIB)	IIIB-V3-21	y	N	INCTRP	Peptide	murine(IgG <sub>1</sub> )
	o [Laman et al.(1992)]					
	• IIIB-V3-21: Similar to MAb murine(IgG <sub>1</sub> ) IIIB-V3-26;					
gp120(299-304 IIIB)	IIIB-V3-26	y	N	SVEINCTRPNNNTRKSI	Peptide	murine(IgG <sub>1</sub> )
	o [Laman et al.(1992)]					
	• IIIB-V3-21 and IIIB-V3-26: Binds to the base of the V3 loop on denatured gp120 [Laman et al.(1992)]					
gp120(299-308 IIIB)	MO97/V3	y	N	PNNNTRKSIR	rec pB1 (IIIB env 286-467)	human(IgM)
	o [Ohlin et al.(1992)]					
gp120(300-315 HXB10)	8/38c	y	L	NNNTRKRIRIQRGPGR	rec BH10 gp120	rat(IgG <sub>2a</sub> )
	o [McKeating et al.(1992a)]					
gp120(300-315 HXB10)	8/64b	y	L	NNNTRKRIRIQRGPGR	rec BH10 gp120	rat(IgM)
	o [McKeating et al.(1992a)]					
	• 8/38c and 8/64b: Bind to virion gp120 and neutralize only in the presence of sCD4 [McKeating et al.(1992a)]					
gp120(304-308 IIIB)	MO99/V3	y	N	RKSIR	rec pB1 (IIIB env 286-467)	human(IgM)
	o [Ohlin et al.(1992)]					
gp120(309-318 & 329-338)	M096/V3	y	?	IQRGPGRAFV & AHCNISRAKW	rec pB1 (IIIB env 286-467)	human(IgM)
	o [Ohlin et al.(1992)]					
gp120(314-323 & 494-503)	MO101/V3,C4	y	?	GRAFVTIGKI & LGVAPTKAKR	rec pB1 (IIIB env 286-467)	human(IgM)
	o [Ohlin et al.(1992)]					
	• MO97, MO99, M096, MO101: generated through <i>in vitro</i> "immunization" of uninfected-donor lymphocytes M101 reacts with peptides from the V3 and C4 regions [Ohlin et al.(1992)]					

**gp120 Antibody-Peptide Reactivity**

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	o References					
	• Comments					
gp120(316-322)	N701.9b	y	L P	PGRAFY	HIV-1 infection	human(IgG <sub>1</sub> )
	o [Scott Jr et al.(1990)]					
	• N701.9b: Type specific neutralization, ADCC directed against MN infected cells [Scott Jr et al.(1990)]					
gp120(302-321 BH10)	MAG 49	y	L	NTRKSIRIQRGPGRFVTIG	sCD4-(rHXB2 gp120)-complex	murine
	o [Kang et al.(1994)]					
gp120(302-321 BH10)	MAG 53	y	L	NTRKSIRIQRGPGRFVTIG	sCD4-(rHXB2 gp120)-complex	murine
	o [Kang et al.(1994)]					
gp120(302-321 BH10)	MAG 56	y	L	NTRKSIRIQRGPGRFVTIG	sCD4-(rHXB2 gp120)-complex	murine
	o [Kang et al.(1994)]					
gp120(302-321 BH10)	MAG 109	y	L	NTRKSIRIQRGPGRFVTIG	sCD4-(rHXB2 gp120)-complex	murine
	o [Kang et al.(1994)]					
	• MAG 49, 53, 56, and 109 bind a V3 loop peptide, were sensitive to both V3 loop mutations and a mutation at the base of the V1/V2 loop structure (120/121 VK/LE) [Kang et al.(1994)]					
gp120(306-338 BH10)	?	n	L	PNNNTRKSIRIQRGPGR- AFVTIGKIGNMRQAHC	Peptide	rabbit(IgG)
	o [Neurath & Strick(1990)]					
	• 21 V3 loop variant peptides spanning this region were used; serological cross-reactivity correlated with divergence [Neurath & Strick(1990)]					
gp120(307-318 IIIB)	9284	y	L	NNTRKSIRIQRG	disrupted IIIB virion	murine(IgG <sub>1</sub> )
	o [Skinner et al.(1988), Wyatt et al.(1992), McKeating et al.(1992a), VanCott et al.(1994), Moore et al.(1994c)];					
	o [Sattentau et al.(1993)];					
	Dupont, commercial					
	• 9284: IIIB type-specific binding and neutralization [Skinner et al.(1988)]					
	• 9284: Does not bind MN gp120, just IIIB [VanCott et al.(1994)]					
	• 9284: Inhibits C4 region antibody that has conformational requirements (G3-299, G3-519) [Moore et al.(1993b)]					
	• 9284: Single amino acids substitutions in the C4 region (427 W/V or W/S), or the base of the V3 loop (298 R/G), enhance 9284 binding and neutralization [Wyatt et al.(1992)]					
	• 9284: Increased binding in the presence of sCD4 [Sattentau et al.(1993)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	○ References					
	● Comments					
gp120(308-313 V3)	1026	y	L	NKRKRIHIGPGRAYTTKNIIGTIC	rgp120 MN	murine(IgG)
	○ [Nakamura et al.(1993), Bou-Habib et al.(1994)]					
	● 1026: Bound diverse strains, neutralizing activity against MN [Nakamura et al.(1993)]					
	● 1026: Greater affinity for T cell tropic strain T-CSF, derived from JR-CSF, than the primary isolate JR-CSF [Bou-Habib et al.(1994)]					
gp120(308-313)	1034	y	L	V3 tip	rgp120 MN	murine(IgG)
	○ [Bou-Habib et al.(1994)]					
	● 1034: Greater affinity for T cell tropic T-CSF, derived from JR-CSF, than primary isolate JR-CSF [Bou-Habib et al.(1994)]					
gp120(304-318 LAI)	?	y	?	RKSIRIQRGPGRAY	?	human(IgG and IgM)
	○ [Chin et al.(1995)]					
	● Mimicking the humoral immune response in vitro					
	supports isotype switching; human IgG MAbs were generated from naive donors [Chin et al.(1995)]					
gp120(299-304 IIIB)	IIIB-V3-34	y	N	IRIQRGPGR	Peptide	murine(IgG <sub>1</sub> )
	○ [Laman et al.(1992)]					
	● IIIB-V3-34: Shortest peptide that bound was: QRGP;					
	—Q-GPG— did not tolerate amino acid substitutions in PEPSCAN [Laman et al.(1992)]					
gp120(299-304 IIIB)	IIIB-V3-13	y	N	KRIRIQRGPGRAYVTIG	Peptide	murine(IgG <sub>1</sub> )
	○ [Laman et al.(1992)]					
gp120(308-328 BRU)	110.3	y	L	QRGPGRAY	BRU infected cell lysates	murine(IgG <sub>1</sub> )
	○ [Kinney Thomas et al.(1988), Evans et al.(1989), Pirofski et al.(1993), Langedijk et al.(1992)]					
	● 110.3: Variable region sequenced; heavy chain: V 7138(40), D deletion, J <sub>H</sub> 4;					
	light chain: V <sub>κ</sub> 21(47), J <sub>κ</sub> 2 [Pirofski et al.(1993)]					
	● 110.3: Included as a control [Evans et al.(1989)]					

**gp120 Antibody-Peptide Reactivity**

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	○ References					
	● Comments					
gp120(308-328 BRU)	110.4	y	L	QRGPGR <sup>A</sup> F	BRU infected cell lysates	murine(IgG <sub>1κ</sub> )
	○ [Kinney Thomas et al.(1988), Pirofski et al.(1993), Langedijk et al.(1992)]					
	● 110.4: Variable region sequenced; heavy chain: V 3660-SB32, D closest to DSP2.3, 2.4 and .6, J <sub>H</sub> 2; light chain: V <sub>κ</sub> 21, J <sub>κ</sub> 2 [Pirofski et al.(1993)]					
gp120(308-328 BRU)	110.5	y	L	QRGPGR <sup>A</sup> F	BRU infected cell lysates	murine(IgG <sub>1κ</sub> )
	○ [Kinney Thomas et al.(1988), Pirofski et al.(1993), Langedijk et al.(1992), McKeating et al.(1992a)]					
	○ [Moore et al.(1993b), Sattentau et al.(1995)]					
	● 110.5: Variable region sequenced; heavy chain: V 3660-SB32, D closest to DSP2.3, 2.4 and .6, J <sub>H</sub> 2; light chain: V <sub>κ</sub> 21, J <sub>κ</sub> 2 [Pirofski et al.(1993)]					
	● 110.5: Thrombin cleavage of V3 loop between R-315 and A-316 abrogates binding; can inhibit C4 region antibody that has conformational requirements (G3-299); Binding to native gp120 100-300 fold greater than to denatured [Moore et al.(1993b)]					
	● 110.5: Pretreatment of HX10-infected H9 cells with sCD4 decreases signal from 110.5 at 37 degrees due to dissociation of gp120-gp41 [Sattentau et al.(1995)]					
gp120(V3 BRU)	110.6	y	L(weak)	RGPGR <sup>A</sup> FV	BRU infected cell lysates	murine(IgG <sub>1λ</sub> )
	○ [Kinney Thomas et al.(1988), Pirofski et al.(1993), Langedijk et al.(1992)]					
	● 110.6: Variable region sequenced; heavy chain: V J558-146b.1α, D closest to DSP16.2, J <sub>H</sub> 3; light chain: V <sub>λ</sub> 1, J <sub>λ</sub> 1 [Pirofski et al.(1993)]					
gp120(V3)	BAT123	y	L	V3 tip	IIIB gp120	murine(IgG <sub>1κ</sub> )
	○ [Pirofski et al.(1993), Liou et al.(1989), Safrit et al.(1993), Fung et al.(1990)]					
	● BAT123: Variable region sequenced; heavy chain: V 3660-SB32, D unknown, J <sub>H</sub> 3; light chain: V <sub>κ</sub> 21, J <sub>κ</sub> 2. [Pirofski et al.(1993)]					
	● BAT123: Anti-idiotypic MAb, AB19-4i, stimulates anti-anti-ID which neutralizes MN and IIIB [Fung et al.(1990)]					
	● BAT123: Passive transfer to Hu-PBS-SCID mice confers protection against challenge with homologous cell-free virus [Safrit et al.(1993)]					
gp120(V3)	CGP 47 439	y	L	V3 tip	IIIB gp120	BAT123-human Ig chimera
	○ [Safrit et al.(1993), Liou et al.(1989)]					
	● GP 47 439: passive transfer to Hu-PBS-SCID mice confers protection against challenge with homologous cell-free virus; BAT123-human Ig chimera [Safrit et al.(1993)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	○ References					
	● Comments					
gp120(V3 MN)	10F10	y	L	RKRIHIGPGRAFYTT	Peptide	murine(IgG <sub>1</sub> )
	○ [Duarte et al.(1994)]					
	● 2C4: Putative epitope lies within IHIGPGRAFYT; generated by multi-epitope polypeptide immunization; recognize MN and SC (TRSIHIGPGRAFYTT) peptides, lower affinity for SF2 [Duarte et al.(1994)]					
gp120(V3 MN)	2C4	y	L(MN)	RKRIHIGPGRAFYTT	Peptide	murine(IgG <sub>2a</sub> )
	○ [Duarte et al.(1994)]					
	● 2C4: Putative epitope lies within IHIGPGRAFYT; neutralizes MN, not IIIB and SF2 generated by multiepitope polypeptide immunization; recognize MN and SC (TRSIHIGPGRAFYTT) peptides, lower affinity for SF2 [Duarte et al.(1994)]					
gp120(V3)	19b	y	L P	-I—G-FY-T	HIV-1 infection	human(IgG)
	○ [Moore et al.(1995b), Scott Jr et al.(1990), Moore et al.(1994a), Moore et al.(1995a)]					
	● 19b: binds to some gp120s from clades A,B,C,E, and F; weakly neutralized some B and one C clade virus [Moore et al.(1995b)]					
	● 19b: V3 loop binding MAb that is more broadly clade cross-reactive than most [Moore et al.(1994a)]					
	● 19b: Despite broad gp120 binding reactivity, not broadly neutralizing [Moore et al.(1995a)]					
gp120(311-321 HXB10)	10/54	y	?	RGPGRAFVTIG	rgp120 BH10	rat(IgG <sub>1</sub> )
	○ [McKeating et al.(1993a), McKeating et al.(1992a)]					
	● 10/54 was studied in the context of a neutralization escape mutant [McKeating et al.(1993a)]					
gp120(311-321 HXB10)	10/36e	y	?	RGPGRAFVTIG	rgp120 BH10	rat(IgG <sub>2a</sub> )
	○ [McKeating et al.(1992a)]					
gp120(311-321 HXB10)	11/85b	y	?	RGPGRAFVTIG	rgp120 BH10	rat(IgG <sub>2b</sub> )
	○ [McKeating et al.(1992a)]					
	● 10/54, 10/36e, and 11/85b: Binding to virion gp120 enhanced by sCD4 [McKeating et al.(1992a)]					
gp120(V3)	loop 2	y		SISGPGRAFYTG	HIV-1 infection	human Fab
	○ [Moore et al.(1994a), Barbas III et al.(1993)]					
	● loop 2: Shows modest cross-reactivity among B clade gp120s, little outside B clade [Moore et al.(1994a)]					
	● loop 2: Sequences of the heavy and light chain Fab variable regions were generated [Barbas III et al.(1993)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
○ References						
● Comments						
gp120(V3 MN)	257-D	y	L	KRIHI	HIV-1 infection	human(IgG <sub>1λ</sub> )
<ul style="list-style-type: none"> <li>○ [Gorny et al.(1991), Gorny et al.(1993), Cavacini et al.(1993)]</li> <li>○ [VanCott et al.(1994), Zolla-Pazner et al.(1995), D'Souza et al.(1994)]</li> <li>● 257-D: Also called 257-2-D-IV</li> <li>● 257-D: Included a multi-lab study for antibody characterization and assay comparison; best NAb against MN, not IIIB [D'Souza et al.(1994)]</li> <li>● 257-D: Neutralizes MN; binds SF2: KSIYI; specificity: MN, SF2, NY5, RF. [Gorny et al.(1993)]</li> <li>● 257-D: Additive MN or SF2 neutralization when combined with CD4 binding site MAb F105; does not neutralize RF [Cavacini et al.(1993)]</li> <li>● 257-D: Potent MN neutralization, slow dissociation constant [VanCott et al.(1994)]</li> <li>● 257-D: In serotyping study using flow-cytometry, bound only to virus with KRIHI [Zolla-Pazner et al.(1995)]</li> </ul>						
gp120(V3)	4117C	y	L	IXIGPGR	HIV-1 infection	human(IgG <sub>1λ</sub> )
<ul style="list-style-type: none"> <li>○ [Tilley et al.(1992), di Marzo Veronese et al.(1993), Pinter et al.(1993b), Pinter et al.(1993a)]</li> <li>● 4117C: Binds V3 loop; does not immunoprecipitate soluble gp120, does react with gp120 on intact virions [Pinter et al.(1993b)]</li> <li>● 4117C: Neutralizes SF2 and MN synergistically combined with anti-CD4 binding site discontinuous MAb [Pinter et al.(1993a), Tilley et al.(1992)]</li> </ul>						
gp120(V3 MN)	41148D	y	L	KRIHIGP	HIV-1 infection	human(IgG)
<ul style="list-style-type: none"> <li>○ [Pinter et al.(1993b)]</li> <li>● 41148D: neutralizes less potently than 4117C, reacts with MN, IIIB, SF2 [Pinter et al.(1993b)]</li> </ul>						
gp120(V3 MN)	453-D	y	L	IHIGPGR	HIV-1 infection	human(IgG <sub>1λ</sub> )
<ul style="list-style-type: none"> <li>○ [Gorny et al.(1993), VanCott et al.(1994)]</li> <li>● 453-D: Neutralizes MN; binds SF2: IYIGPGR; specificity: MN, SF2, NY5, RF [Gorny et al.(1993)]</li> <li>● 453-D: Moderate homologous neutralization, moderately slow dissociation rate [VanCott et al.(1994)]</li> </ul>						

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	○ References					
	● Comments					
gp120(V3)	504-D	y	L	IHIGPGR	HIV-1 infection	human(IgG <sub>1κ</sub> )
	○ [Gorny et al.(1993)]					
	● 504-D; Neutralizes MN; binds SF2: IYIGPGR [Gorny et al.(1993)]					
gp120(V3)	418-D	y	L	HIGPGRA	HIV-1 infection	human(IgG <sub>1κ</sub> )
	○ [Gorny et al.(1993)]					
	● 418-D: Neutralizes MN, does not bind to SF2 or HXB2 [Gorny et al.(1993)]					
gp120(V3)	311-11D	y	L	KRIHIGP	HIV-1 infection	human(IgG <sub>1λ</sub> )
	○ [Gorny et al.(1993)]					
	● 311-11D: Neutralizes MN; binds SF2: KSIYIGP [Gorny et al.(1993)]					
gp120(V3)	391/95-D	y	L	RKRIHIGPGRAFYTT	HIV-1 infection	human(IgG <sub>1κ</sub> )
	○ [Gorny et al.(1993)]					
	● 391/95-D: Neutralizes MN; binds to SF2, not IIIB [Gorny et al.(1993)]					
gp120(V3 MN)	412-D	y	L	RKRIHIGPGRAFYTT	HIV-1 infection	human(IgG <sub>1κ</sub> )
	○ [Gorny et al.(1993), VanCott et al.(1994)]					
	● 412-D: Neutralizes MN, does not bind SF2 or HXB2; not reactive with hexa or heptapeptides by PEPscan [Gorny et al.(1993)]					
	● 412-D: Relatively rapid dissociation and weak homologous neutralization; also called 412-10D [VanCott et al.(1994)]					
gp120(V3)	477-D	y	L	HIGP	HIV-1 infection	human(IgG <sub>1κ</sub> )
	○ [Gorny et al.(1993)]					
	● Neutralizes MN; binds SF2: YIGP [Gorny et al.(1993)]					
gp120(311-324 MN)	μ5.5	y	P	RIHIGPGRAFYTTG	?	murine
	○ [D'Souza et al.(1994)]; Donors: T. Hattori, Kyoto U., Japan, and H. Schuitemaker and H. Huisman, Netherlands Red Cross					
	● μ5.5: Included in a panel of antibodies used in a multi-lab study for antibody characterization and binding and neutralization assay comparison [D'Souza et al.(1994)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	○ References					
	● Comments					
gp120(312-318 MN)	83.1	y	L P	IXIGPGR	MN V3 Peptide	murine(IgG <sub>1</sub> )
	○ [M. E. White-Scharf et al.(1993), Robert-Guroff et al.(1994), D'Souza et al.(1994), Moore et al.(1994a)]					
	● 83.1: Epitope defined by peptide reactivity and changes in binding affinity with substitutions [M. E. White-Scharf et al.(1993)]					
	● 83.1: MN V3 loop in a HXB2 background allows enhanced FACs labeling of infected H9 cells and increased Ab affinity [Robert-Guroff et al.(1994)]					
	● 83.1: Included in a multi-lab study for antibody characterization and binding and neutralization assay comparison [D'Souza et al.(1994)]					
	● 83.1: Shows modest cross-reactivity among B clade gp120s, little outside B clade [Moore et al.(1994a)]					
gp120(307-316 IIIB)	F58/H3	y	L P	RIQRGPGRAY	IIIB gp120	murine(IgG)
	○ [Akerblom et al.(1990), Broliden et al.(1990), D'Souza et al.(1994), Duarte et al.(1994)]					
	● F58/H3: No ADCC activity [Akerblom et al.(1990)]					
	● F58/H3: Neutralized multiple primary isolates with varying potency [Akerblom et al.(1990)]					
	● F58/H3: Included in a multi-lab study for antibody characterization and neutralization assay comparison [D'Souza et al.(1994)]					
	● F58/H3: Neutralizes IIIB but not SF2 or MN [Duarte et al.(1994)]					
gp120(307-316 IIIB)	A47/B1	y	L P	IQRGPGRAYV	IIIB gp120	murine(IgG)
	○ [Akerblom et al.(1990)]					
gp120(307-316 IIIB)	G44/H7	y	L P	IQRGPGRAYV	IIIB gp120	murine(IgG)
	○ [Akerblom et al.(1990)]					
gp120(307-316 IIIB)	D59/A2	y	L P	IQRGPGRAYV	IIIB gp120	murine(IgG)
	○ [Akerblom et al.(1990)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	o References					
	• Comments					
gp120(308-316 IIIB)	IIIB-34 V3	y	L	IQRGPGRAF	Peptide	murine(IgG <sub>1</sub> )
	o [Laman et al.(1992)]					
	• IIIB-34 V3: Neutralizes IIIB but not MN; QXGPG are critical amino acids for binding by pepscan analysis [Laman et al.(1992)]					
gp120(308-316 IIIB)	IIIB-13 V3	y	L	IQRGPGRAF	Peptide	murine(IgG <sub>1</sub> )
	o [Laman et al.(1992), D'Souza et al.(1994)]					
	• IIIB-13 V3 is also known as 1044-13 (J. P. Moore, per. comm.)					
	• IIIB-13 V3: Neutralizes IIIB but not MN [Laman et al.(1992)]					
	• 1044-13: Included in a panel of antibodies used in a multi-lab study for antibody characterization and assay comparison					
gp120(V3 IIIB)	M77	y	L	IRIQRGPGRAFVTI	HIV-1 infection	human
	o [di Marzo Veronese et al.(1992), di Marzo Veronese et al.(1993)]					
	• M77: IIIB-specific MAb, immunoprecipitates deglycosylated form					
	• M77: Antibody binding to viral isolates from IIIB infected lab worker followed through time; A to T substitution resulted in the loss of neutralization and native gp120 binding, but not peptide binding [di Marzo Veronese et al.(1993)]					
gp120(V3 MN)	268-D	y	L	HIGPGR	HIV-1 infection	human(IgG <sub>1λ</sub> )
	o [Gorny et al.(1991), Gorny et al.(1993), Zolla-Pazner et al.(1995), VanCott et al.(1994)]					
	• 268-D: Neutralizes MN; binds SF2: YIGPGR; specificity: MN, SF2, NY5, RF, CDC4 [Gorny et al.(1993)]					
	• 268-D: Serotyping study using flow-cytometry, if H was substituted in virus, 268-D did not bind [Zolla-Pazner et al.(1995)]					
	• 268-D: Moderate dissociation rate and homologous neutralization titer [VanCott et al.(1994)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	o References					
	• Comments					
gp120(V3 316-330 HXB2)	0.5 $\beta$	y	L	RGPGRAFVTIGKIG	IIIB env	murine(IgG <sub>1</sub> )
	o [Matsushita et al.(1988), Skinner et al.(1988), Nara et al.(1990), Emini et al.(1992)]					
	o [McKeating et al.(1992a), di Marzo Veronese et al.(1993), Moore et al.(1993b)]					
	• 0.5 $\beta$ : type-specific neutralization of IIIB; does not neutralize MN or RF [Matsushita et al.(1988), Skinner et al.(1988)]					
	• 0.5 $\beta$ : Emergence of virus resistant to MAb 0.5 $\beta$ and autologous sera neutralization in IIIB infected chimps [Nara et al.(1990)]					
	• 0.5 $\beta$ : neutralization of virus carrying a Ala to Thr substitution (contrast with MAb M77) [di Marzo Veronese et al.(1993)]					
	• 0.5 $\beta$ : Binding to native gp120 100-300 fold greater than to denatured [Moore et al.(1993b)]					
gp120(V3 316-330 HXB2)	C $\beta$ 1	y	L	RGPGRAFVTIGKIG	IIIB env	humanized(IgG <sub>1</sub> ), from 0.5 $\beta$
	o [Emini et al.(1992)]					
	• C $\beta$ 1: passive transfer to chimpanzees confers protection against challenge with homologous cell-free virus; mouse 0.5 $\beta$ human IgG <sub>1</sub> chimera [Emini et al.(1992)]					
gp120(V3 MN)	386-D	y	L	HIGPGR	HIV-1 infection	human(IgG <sub>1</sub> $\lambda$ )
	o [Gorny et al.(1993), VanCott et al.(1994)]					
	• 386-D: Neutralizes MN; binds SF2: YIGPGR; specificity: MN, SF2, NY5, RF, CDC4 [Gorny et al.(1993)]					
	• 386-D: Slow dissociation rate, potent homologous neutralization [VanCott et al.(1994)]					
gp120(V3)	5021	y	L	QRGPGR	peptide	murine
	o [Durda et al.(1988), Durda et al.(1990), Moore et al.(1993b)]					
gp120(V3)	5042	y	L	QRGPGR	peptide	murine
	o [Durda et al.(1988), Durda et al.(1990), Moore et al.(1993b)]					
	• 5021 and 5042: Binding to native gp120 100-300 fold greater than to denatured 314G/W substitution abolishes binding, changes outside the loop have little effect [Moore et al.(1993b)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
<ul style="list-style-type: none"><li>○ References</li><li>● Comments</li></ul>						
gp120(V3)	F58/D1	y	L	IXXGPGR	virus derived gp120	human
<ul style="list-style-type: none"><li>○ [Akerblom et al.(1990), Broliken et al.(1991), Moore et al.(1993b)]</li><li>● F58/D1: Binding to native gp120 1-3 fold greater than to denatured</li><li>314G/W substitution abolishes binding, changes outside the loop have little effect [Moore et al.(1993b)]</li></ul>						
gp120(V3)	P1/D12	y	L	IXXGPGR	virus derived IIIB gp120	murine(IgG)
<ul style="list-style-type: none"><li>○ [Akerblom et al.(1990), Moore et al.(1993b)]</li><li>● P1/D12: Binding to native gp120 1-3 fold greater than to denatured</li><li>314G/W substitution abolishes binding, changes outside the loop have little effect [Moore et al.(1993b)]</li></ul>						
p120(V3)	P4/D10	y	L	IXXGPGR	virus derived IIIB gp120	murine(IgG)
<ul style="list-style-type: none"><li>○ [Akerblom et al.(1990), Broliken et al.(1990), Broliken et al.(1991), Moore et al.(1993b)]</li><li>● P1/D12: Binding to native gp120 3 fold greater than to denatured</li><li>314G/W substitution abolishes binding, changes outside the loop have little effect [Moore et al.(1993b)]</li><li>● Neutralizing and ADCC activity [Broliken et al.(1990)]</li></ul>						
gp120(V3)	419-D	y	L	IYIGPGR	HIV-1 infection	human(IgG <sub>1λ</sub> )
<ul style="list-style-type: none"><li>○ [Gorny et al.(1993)]</li><li>● 419-D: Neutralizes MN; binds SF2: IYIGPGR [Gorny et al.(1993)]</li></ul>						
gp120(V3)	537-D	y	L	IGPGR	HIV-1 infection	human(IgG <sub>1λ</sub> )
<ul style="list-style-type: none"><li>○ [Gorny et al.(1992), Gorny et al.(1993), VanCott et al.(1994)]</li><li>● 537-D: MN type specific neutralization observed; binds SF2: IGPGR [Gorny et al.(1992), Gorny et al.(1993)]</li><li>● 537-D: moderate homologous neutralization, relatively rapid dissociation constant [VanCott et al.(1994)]</li></ul>						
gp120(V3 MN)	NM-01	y	L	GPGR	IIIB MN	murine(IgG)
<ul style="list-style-type: none"><li>○ [Ohno et al.(1991)]</li></ul>						

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
gp120(V3 MN)	447-52D	y	L P	GPXR	HIV-1 infection	human(IgG <sub>3λ</sub> )
		○ References				
		● Comments				
gp120(308-313 MN)	59.1	y	L	GPGRAF	Peptide	murine(IgG <sub>1</sub> )
		○ [M. E. White-Scharf et al.(1993), Bou-Habib et al.(1994), D'Souza et al.(1994)]				
		● 59.1: Epitope defined by peptide reactivity and binding affinity with amino acid substitutions [M. E. White-Scharf et al.(1993)]				
		● 59.1: Greater affinity for T cell tropic strain T-CSF than the primary isolate JR-CSF, from which T-CSF was derived [Bou-Habib et al.(1994)]				
		● 59.1: Multi-lab study for antibody characterization and assay comparison; neutralizes MN and IIIB [D'Souza et al.(1994)]				

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	o References					
	• Comments					
gp120(V3 MN )	50.1	y	L	RIHIG	V3 MN peptide	murine(IgG <sub>1</sub> )
	o [M. E. White-Scharf et al.(1993), Bou-Habib et al.(1994), Robert-Guroff et al.(1994)]					
	o [Moore et al.(1994a), VanCott et al.(1994)]					
	• 50.1: Epitope defined by peptide reactivity & changes affinity with amino acid substitutions [M. E. White-Scharf et al.(1993)]					
	• 50.1: No neutralization of primary isolate JR-CSF; greater affinity for and neutralization of T cell tropic strain T-CSF, derived from JR-CSF [Bou-Habib et al.(1994)]					
	• 50.1: Potent MN neutralization, slow dissociation rate [VanCott et al.(1994)]					
	• 50.1: Chimeric MN V3 loop in an HXB2 background allows increased FACS signal, Ab affinity, and viral neutralization [Robert-Guroff et al.(1994)]					
	• 50.1: Shows modest cross-reactivity among B clade gp120s, little outside B clade [Moore et al.(1994a)]					
gp120(V3 MN )	58.2	y	L P	HIGPGRAF	MN V3 peptide	murine(IgG <sub>1</sub> )
	o [M. E. White-Scharf et al.(1993), Moore et al.(1994a)]					
	• 58.2: Epitope defined by peptide reactivity and changes in affinity with amino acid substitutions [M. E. White-Scharf et al.(1993)]					
	• 58.2: Modest cross-reactivity among B clade gp120s, little outside B clade; gives epitope as I-IHIG [Moore et al.(1994a)]					
gp120(IIIB V3)	694/98-D	y	L	GRAF	HIV-1 infection	human(IgG <sub>1λ</sub> )
	o [Gorny et al.(1992), Gorny et al.(1993), Laal et al.(1994), VanCott et al.(1994), Zolla-Pazner et al.(1995)]					
	• 694/98-D: Type specific lab isolate neutralization was observed [Gorny et al.(1992)]					
	• 694/98-D: Neutralizes MN and IIIB: GRAF; binds SF2: GRAF; specificity: MN, IIIB, SF2, NY5, RF, CDC4, WM52. [Gorny et al.(1993)]					
	• 694/98-D: Potent neutralization of IIIB; no neutralization synergy in combination with CD4 binding domain MAb's [Laal et al.(1994)]					
	• 694/98-D: GRVY did not alter peptide binding; GRVI and GQAW enhanced dissociation; GQVF and GQAL did not bind [VanCott et al.(1994)]					
	• 694/98-D: Serotyping study using flow-cytometry; bound GRAX bearing virus in 10/11 cases; somewhat conformation dependent [Zolla-Pazner et al.(1995)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
		o References				
		• Comments				
gp120(IIIB V3)	9205	y	L	RAF	IIIB V3 Peptide	murine(IgG <sub>1</sub> )
		o [Durda et al.(1990), VanCott et al.(1994)]				
		• 9205: Neutralizes IIIB but not MN; significantly slower dissociation constant for IIIB than MN [VanCott et al.(1994)]				
gp120(361-380 LAI)	4D7/4	y	?	IFKQSSGGDPEIVTHSFNCGG	env glycoprotein	murine(IgG)
		o [Moore et al.(1994b)]; Donor: S. Ranjbar, NIBSC, UK				
		• 4D7/4; C3 region; the relative affinity for denatured/native gp120 is >10				
gp120(362-381 LAI)	36.1(ADP 329)	y	?	FKQSSGGDPEIVTHSFNCGGE	env glycoprotein	murine(IgG)
		o [Moore et al.(1994b), Thiriart et al.(1989)]				
		• 36.1: The relative affinity for denatured/native gp120 is >30; mutations 380 G/F, 381 E/P impair binding				
gp120(362-381 LAI)	C12	y	?	FKQSSGGDPEIVTHSFNCGGE	mis-folded LAI rgp160	murine(IgG <sub>1</sub> )
		o [Moore et al.(1994b), Abacioglu et al.(1994), Moore et al.(1994c)]				
		• C12: The relative affinity for denatured/native gp120 is >30; mutations 380 G/F, 381 E/P, and 384 Y/E impair binding; also binds GEFFYCNSTQLFNS, gp120(380-393 LAI) [Moore et al.(1994b)]				
		• C12: C3 region; epitope boundaries mapped by peptide scanning, core FNCGG [Abacioglu et al.(1994)]				
gp120(380-393 LAI)	110.D	y	?	GEFFYCNSTQLFNS	env glycoprotein	murine(IgG)
		o [Moore et al.(1994b)]; Donor: F. Traincard, Pasteur Institute, France				
		• 110.D: The relative affinity for denatured/native gp120 is >50 [Moore et al.(1994b)]				

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
gp120(380-393 LAI)	B32	y	?	GEFFYCNSTQLFNS	mis-folded LAI rgp160	murine(IgG <sub>1</sub> )
	o References				o [Moore et al.(1994b), Abacioglu et al.(1994)]	
	• Comments				• B32: The relative affinity for denatured/native gp120 is >100; mutations 380 G/F, 381 G/P, 382 F/L, 384 Y/E, and 386 N/R impair binding [Moore et al.(1994b)]	
gp120(395-400 BH10)	B15	y	?	WFNSTW	mis-folded LAI rgp160	murine(IgG <sub>2b</sub> )
	o References				o [Abacioglu et al.(1994), Moore et al.(1993b)]	
	• Comments				• B15: V4 region; epitope boundaries mapped by peptide scanning [Abacioglu et al.(1994)]	
					• B15: Binds native BH10 gp120 with 5 fold less affinity than denatured, but does not bind native or denatured MN gp120 [Moore et al.(1993b)]	
gp120(395-400 BH10)	B34	y	?	WFNSTW	mis-folded LAI rgp160	murine(IgG <sub>2b</sub> )
	o References				o [Abacioglu et al.(1994)]	
	• Comments				• B34: V4 region; epitope boundaries mapped by peptide scanning [Abacioglu et al.(1994)]	

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
gp120(423-437 IIIB)	G3-211	y	L	IINMWQKVKGKAMYAP	virus derived IIIB gp120	murine(IgG <sub>1</sub> )
	o [Sun et al.(1989)]					
gp120(423-437 IIIB)	G3-536	y	L	IINMWQKVKGKAMYAP	virus derived IIIB gp120	murine(IgG <sub>1</sub> )
	o [Sun et al.(1989)]					
gp120(423-437 IIIB)	G3-537	y	L	IINMWQKVKGKAMYAP	virus derived IIIB gp120	murine(IgG <sub>1</sub> )
	o [Sun et al.(1989)]					
	• G3-42, 211, 299, 508, 519, 536, 537: Cross-react with diverse strains by immunofluorescence; block binding of HIV to CD4+ cells, but show different behaviors in terms of neutralization efficiency [Sun et al.(1989)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	○ References					
	● Comments					
gp120(429-443)	MO86/C3	y	?	EVGKAMYAPPISGQI	rec pB1 (IIIB env 286-467)	human(IgM)
	○ [Ohlin et al.(1992)]					
	● MO86: generated through <i>in vitro</i> “immunization” of uninfected-donor lymphocytes					
gp120(429-438 BRU)	G3-42	y	L	EVGKAMYAPP	virus derived IIIB gp120	murine(IgG <sub>1</sub> )
	○ [Sun et al.(1989), Moore et al.(1993b)]					
	● G3-42: Neutralization of IIIB but not RF [Sun et al.(1989)]					
	● G3-42: C4 region; binds HXB2 20mer KQIINMWQKVKGKAMYAPPIS, and SF-2 and MN gp120s (note E/K change); G3-42, G3-299 have a lower affinity than G3-508, G3-519, and G3-536					
	bound well only to native gp120, not denatured; poor peptide binding, epitope spans V3-C4 regions; 433A/L, 435Y/H and 430V/S substitutions impaired binding, V3 loop insertion abolished binding [Moore et al.(1993b)]					
gp120(429-438 BRU)	G3-299	y	L	EVGKAMYAPP	virus derived IIIB gp120	murine(IgG <sub>1</sub> )
	○ [Sun et al.(1989), Moore et al.(1993b)]					
	● G3-299: Best neutralization of IIIB in panel of 7 MAbs that bind overlapping epitope [Sun et al.(1989)]					
	● G3-299: C4 region; binds HXB2 20mer KQIINMWQKVKGKAMYAPPIS, and SF-2 and MN gp120s (note E/K change); G3-42, G3-299 have a lower affinity than G3-508, G3-519, and G3-536					
	bound well only to native gp120, not denatured; poor peptide binding, epitope spans V3-C4 regions; 433A/L, 435Y/H and 430V/S substitutions impaired binding, V3 loop cleavage or insertion abolished binding [Moore et al.(1993b)]					
gp120(429-438 BRU)	G3-508	y	L	EVGKAMYAPP	virus derived IIIB gp120	murine(IgG <sub>1</sub> )
	○ [Sun et al.(1989), Moore et al.(1993b)]					
	● G3-508: Neutralization of IIIB and RF [Sun et al.(1989)]					
	● G3-508: C4 region; binds HXB2 20mer KQIINMWQKVKGKAMYAPPIS, and SF-2 and MN gp120s (note E/K change); bound denatured with 10 fold greater affinity than native; 433A/L, 435Y/H and 430V/S substitutions impaired binding [Moore et al.(1993b)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	○ References					
	● Comments					
gp120(429-438 BRU)	G3-519	y	L	EVGKAMYAPP	virus derived IIIB gp120	murine(IgG <sub>1</sub> )
	○ [Sun et al.(1989), Moore et al.(1993b), D'Souza et al.(1994)]					
	● G3-519: Best neutralization of RF in panel of 7 MAbs that bind overlapping epitope [Sun et al.(1989)]					
	● G3-519: C4 region; binds HXB2 20mer KQIINMWQKVKGKAMYAPPIS, and SF-2 and MN gp120s (note E/K change); bound denatured with 5 fold greater affinity than native; 433A/L, 435Y/H, 438P/R and 430V/S substitutions impaired binding [Moore et al.(1993b)]					
	● G3-519: Included in a multi-lab study for antibody characterization, binding, and neutralization assay comparison, also binds IIIB: IINMWQKVKGKAMYAPP [D'Souza et al.(1994)]					
gp120(429-438 BRU)	G3-536	y	L	EVGKAMYAPP	virus derived IIIB gp120	murine(IgG <sub>1</sub> )
	○ [Sun et al.(1989), McKeating et al.(1992b), Moore et al.(1993b)]					
	● G3-536: Weak neutralization of IIIB and RF [Sun et al.(1989)]					
	● G3-536: C4 region; binds HXB2 20mer KQIINMWQKVKGKAMYAPPIS, and SF-2 and MN gp120s					
	● 536: Weakly neutralizing; binds to a linear determinant in the CD4 binding domain of gp120 [McKeating et al.(1992b)] (note E/K change); bound denatured with 15 fold greater affinity than native; 433A/L, 435Y/H, 438P/R, and 430V/S substitutions impaired binding [Moore et al.(1993b)]					
gp120(430-447 BRU)	G3-537	y	L	NMWQEVGKAMYAPPISG	gp120	
	○ [McKeating et al.(1992b), Sun et al.(1989)]					
	Weakly neutralizing. Binds to a linear determinant in the CD4 binding domain of gp120 [McKeating et al.(1992b)]					
gp120(429-438 BRU)	ICR38	y	?	EVGKAMYAPP	rec BH10 gp120	rat(IgG <sub>2b</sub> )
	○ [Cordell et al.(1991), Moore et al.(1993b), McKeating et al.(1992b), McKeating et al.(1992a), McKeating et al.(1993b)]					
	● ICR38: Unreactive with solid-phase decamer peptide, competed in solution phase assay; [Moore et al.(1993b)]					
	● ICR38.1a: weakly neutralizing; binds linear determinant in the CD4 binding domain [McKeating et al.(1992b), Cordell et al.(1991)]					
	● ICR38.1a: studied in the context of a neutralization escape mutant [McKeating et al.(1993a)]					
	● ICR38.1a: Unable to exert a synergistic effect in combination with V3 directed MAbs, in contrast to MAb 39.13g, that binds to a conformational epitope involved in CD4 binding [McKeating et al.(1992a)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
gp120(429-438 BRU)	G45-60	y	L	GKAMYAPPIS	virus derived IIIB gp120	murine(IgG <sub>1</sub> )
	o References			[Sun et al.(1989), Moore et al.(1993b)]		
	• Comments			• G45-60: binds HXB2 20mer KQIINMWQKVKGKAMYAPPI, decamer flanking peptides also bound; bound equivalently to native and denatured gp120 433A/L and 435Y/H (not 430V/S) substitutions impaired binding [Moore et al.(1993b)]		
gp120(CD4 binding site IIIB)	1662	y	N	AMYAPPI	poliovirus-antigen chimera	
	o [McKeating et al.(1992b)]					
gp120(CD4 binding site IIIB)	1663	y	N	AMYAPPI	poliovirus-antigen chimera	
	o [McKeating et al.(1992b)]					
gp120(CD4 binding site IIIB)	1664	y	N	AMYAPPI	poliovirus-antigen chimera	
	o [McKeating et al.(1992b)]					
gp120(CD4 binding site IIIB)	1697	y	N	AMYAPPI	poliovirus-antigen chimera	
	o [McKeating et al.(1992b)]					
gp120(CD4 binding site IIIB)	1794	y	N	AMYAPPISGQ	poliovirus-antigen chimera	
	o [McKeating et al.(1992b)]					
gp120(CD4 binding site IIIB)	1804	y	N	AMYAPPISGQ	poliovirus-antigen chimera	
	o [McKeating et al.(1992b)]					
gp120(CD4 binding site IIIB)	1807	y	N	AMYAPPISGQ	poliovirus-antigen chimera	
	o [McKeating et al.(1992b)]					
gp120(CD4 binding site IIIB)	1808	y	N	AMYAPPISGQ	poliovirus-antigen chimera	
	o [McKeating et al.(1992b)]					
	• 1662, 1663, 1664, 1697, 1794, 1804, 1807, 1808: Did not bind to native gp120, epitope not exposed on native protein [McKeating et al.(1992b)]					

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
gp120(425-441 IIIB)	1795	y	L	NMWQEVGKAMYAPPISG	polio S1/env/4 chimera	
	o References			o [McKeating et al.(1992b)]		
	• Comments			• 1795: CD4 binding site; weakly neutralizing; binding inhibited by WQEVGKAMYA, GKAM may be involved [McKeating et al.(1992b)]		
gp120(412-453)	13H8	y	L	GKAMYAPPIS	rgp120 MN	murine(IgG)
	o [Nakamura et al.(1993), Nakamura et al.(1992)]					
	• 13H8: Cross blocks 5C2 in IIIB-rsgp160 ELISA; reactive with diverse strains in rgp120 ELISA [Nakamura et al.(1992)]					
	• 13H8: Bound diverse strains, neutralizing activity against MN [Nakamura et al.(1993)]					
	• 13H8: Binds V3 and C4 peptides (J. P. Moore, per. comm.)					
gp120(451-470 LAI)	M91	y	n	SNNESEIFRL	HIV-1 451 env	rat(IgG <sub>2a</sub> )
	o [Moore et al.(1994b), di Marzo Veronese et al.(1992), Moore et al.(1994c)]					
	• M91: The relative affinity for denatured/native gp120 is 24; mutation in position 470 P/L impairs binding [Moore et al.(1994b)]					
	• M91: Immunoblot reactive, RIP negative, but precipitates deglycosylated gp120; reacts with strains IIIB, 451, MN, RF, and RUTZ [di Marzo Veronese et al.(1992)]					
gp120(451-470 LAI)	CRA1(ADP 323)	y	?	SNNESEIFRL	env glycoprotein	murine(IgG)
	o [Moore et al.(1994b), Moore et al.(1994c)]; Donor: M. Page, NIBSC, UK					
	• CRA1: The relative affinity for denatured/native gp120 is 24; mutations 470 P/L or G, 475 M/S impairs binding to the native form; only mutation 470 P/L impairs binding to the denatured form [Moore et al.(1994b)]					
gp120(471-490 LAI)	9301	y	?	GGGDMDRDWRSELYKYKVVK	env glycoprotein	murine(IgG)
	o [Moore et al.(1994b), Skinner et al.(1988), Moore et al.(1994c)]; Dupont, commercial					
	• 9301: The relative affinity for denatured/native gp120 is 19 [Moore et al.(1994d)]					

## HIV Peptide-Reactive Monoclonal Antibodies

### gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
gp120(490-508)	M38	y	n	KYKVVKEIPLGVAPTKAKRR	IIIB immunization o [DeSantis et al.(1994), Lopalco et al.(1993), Grassi et al.(1991), Beretta et al.(1987)] • M38: binds to the carboxy terminus of gp120, in a gp41 binding region, and also to denatured human HLAs (antigenic homology) [Lopalco et al.(1993)] • M38: Infected individuals have HLA class I-gp120 cross-reactive antibodies [DeSantis et al.(1994)]	murine()
gp120(471-490 LAI)	1C1	y	?	GGGDMRDNRSELKYKVVK	env glycoprotein o [Moore et al.(1994b), Moore et al.(1994c)]; Repligen Inc, commercial • 1C1: The relative affinity for denatured/native gp120 is 15 [Moore et al.(1994b)]	murine (IgG)
gp120(471-490 LAI)	221(ADP 301)	y	?	GGGDMRDNRSELKYKVVK	env glycoprotein o [Moore et al.(1994b), Moore et al.(1994c)]; Donor: C. Bruck, SKB, Belgium • 221; The relative affinity for denatured/native gp120 is 12; mutation 477 D/V impairs binding [Moore et al.(1994b)]	murine (IgG)
gp120(471-490 LAI)	660-178	y	?	GGGDMRDNRSELKYKVVK	envelope glycoprotein o [Moore et al.(1994b)]; Donor: G. Robey, Abbott Labs • 660-178: The relative affinity for denatured/native gp120 is >100 [Moore et al.(1994b)]	murine(IgG)
gp120(471-490 LAI)	8C6/1	y	?	GGGDMRDNRSELKYKVVK	env glycoprotein o [Moore et al.(1994b)]; Donor: S. Ranjbar, NIBSC, UK • 8C6/1: V5-C5 region; preferentially binds SDS-DTT denatured gp120 (<30 fold); mutation 485 K/V impairs binding [Moore et al.(1994b)]	murine(IgG)
gp120(471-490 LAI)	5F4/1	y	?	GGGDMRDNRSELKYKVVK	Peptide o [Moore et al.(1994b)]; Donor: S. Ranjbar, NIBSC, UK • 5F4/1: V5-C5 region; preferentially binds SDS-DTT denatured gp120 (<10 fold); mutation 485 K/V impairs binding [Moore et al.(1994b)]	murine
gp120(471-490 LAI)	3F5	y	?	GGGDMRDNRSELKYKVVK	envelope o [Moore et al.(1994b)]; Donor: S. Nigida, NCI, USA • 3F5: The relative affinity for denatured/native gp120 is 100 [Moore et al.(1994b)]	murine(IgG)
gp120(314-323 & 494-503)	MO101/V3,C4	y	?	GRAFVTIGKI & LGVAPTKAKR	rec pB1 (IIIB env 286-467)	human(IgM) o [Ohlin et al.(1992)] • MO101: generated through <i>in vitro</i> "immunization" of uninfected-donor lymphocytes: reacts with peptides from the V3 and C4 regions [Ohlin et al.(1992)]

## gp120 Antibody-Peptide Reactivity

Location	Name	MAb	NAb	Peptide	Immunogen	Species(isotype)
	o References					
	• Comments					
gp120(472-491 LAI)	W2	y	?	GGDMRDNRSELYKYKVVKI	envelope	murine(IgG)
	o [Moore et al.(1994b)]; Donor: D. Weiner, U. Penn., USA					
	• W2: The relative affinity for denatured/native gp120 is 30; mutation 485 K/V impairs binding [Moore et al.(1994b)]					
gp120(491-500 LAI)	RV110026	y	?	IEPLGVAPTK	Peptide	human
	o [Moore et al.(1994b), Moore et al.(1994c)]; Commercial, Olympus Inc					
	• RV110026: Preferentially binds SDS-DTT denatured gp120 (15 fold using R1/87 as capture reagent) [Moore et al.(1994b)]					
gp120(491-500 LAI)	110.1	y	?	IEPLGVAPTK	BRU infected cell lysates	murine(IgG <sub>1</sub> )
	o [Kinney Thomas et al.(1988), Moore et al.(1994d)]					
	• 110.1: The relative affinity for denatured/native gp120 is 0.7 [Moore et al.(1994b)]					
gp120(487-509)	450-D	y	N	RRVVQRE	HIV-1 infection	human(IgG <sub>1λ</sub> )
	o [Karwowska et al.(1992), Laal et al.(1994)]					
	• 450-D: bound to MN, SF-2 and IIIB, but was not neutralizing [Karwowska et al.(1992)]					
	• 450-D: not neutralizing alone, could synergize anti-CD4 binding site antibody neutralization [Laal et al.(1994)]					
gp120(503-509)	722-D	y	N	RRVVQRE	HIV-1 infection	
	o [Laal et al.(1994)]					
	• 722-D: not neutralizing alone, could synergize anti-CD4 binding site antibody neutralization [Laal et al.(1994)]					
gp120(C terminus)	670-D	y	?	PTKAKRR	HIV-1 infection	human(IgG)
	o [Zolla-Pazner et al.(1995)]					
	• 670-D: Group specific cross-clade binding in serotyping study using flow-cytometry [Zolla-Pazner et al.(1995)]					
gp120(C terminus)	858-D	y	?	VVQREKRR	HIV-1 infection	human(IgG)
	o [Zolla-Pazner et al.(1995)]					
	• 858-D: Group specific cross-clade binding in serotyping study using flow-cytometry [Zolla-Pazner et al.(1995)]					
gp120(C terminus)	989-D	y	?	VVQREKRR	HIV-1 infection	human(IgG)
	o [Zolla-Pazner et al.(1995)]					
	• 989-D: In serotyping study using flow-cytometry, showed B clade specificity, but only reacted with 7/11 B clade virus [Zolla-Pazner et al.(1995)]					